

AMENDMENTS TO THE CLAIMS

1.-3. (Canceled)

4. (Original) A system for supplementing blood circulation in a patient comprising:
a pump configured to pump blood through the patient at subcardiac flow rates,
said pump having an average flow rate that, during normal operation thereof, is
substantially below that of the patient's heart when healthy;

a conduit fluidly coupled to the pump and configured to direct blood between two
locations within the patient's vasculature wherein the blood may travel in reverse
directions within the conduit.

5.-6. (Canceled)

7. (New) The system of Claim 4, wherein the conduit comprises a multi-lumen
catheter.

8. (New) The system of Claim 4, wherein the conduit further comprises:
an inflow port;

a first lumen fluidly coupled with the inflow port such that blood can be directed
from the inflow port into the first lumen;

a second lumen fluidly coupled to the pump such that blood can be pumped from
the pump through the second lumen; and

an outflow port fluidly coupled with the second lumen such that blood can be
directed from the second lumen through the outflow port;

wherein the conduit is configured such that the inflow port can be positioned at a first
location within the patient's vasculature and the outflow port can be positioned at a second
location within the vasculature.

9. (New) The system of Claim 8, further comprising a first cannula positioned
between the pump and the first lumen and a second cannula positioned between the second
lumen and the pump.

10. (New) The system of Claim 4, wherein the pump is configured to be implanted
within the patient.

11. (New) The system of Claim 4, wherein the system is configured to be applied to
the patient through a single cannulation site.

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12. (New) The system of Claim 4, wherein the conduit is comprised of a material that is sufficiently flexible so as not to prevent the patient from being ambulatory.

13. (New) The system of Claim 4, further comprising:

a motor operatively coupled to the pump; and

a programmable controller electronically coupled to the motor and configured to control the speed of the motor and the output of the pump.

14. (New) The system of Claim 4, wherein the pump comprises a rotary pump.

15. (New) The system of Claim 4, wherein the conduit is configured to direct blood from a first peripheral vessel to a second vessel.

16. (New) The system of Claim 15, wherein the first peripheral vessel is a femoral artery and the second vessel is the aorta.

17. (New) The system of Claim 4, wherein a first location is within a left femoral artery and a second location is in a descending aorta proximate an arterial branch.

18. (New) The system of Claim 17, wherein the second location is proximate a subclavian artery.

19. (New) The system of Claim 17, wherein the second location is proximate a mesenteric artery.